CLAIMS

1. A method of manufacturing an oxide superconducting wire comprising the step of:

bonding end portions of two oxide superconducting wires (1, 2) by superposing the end portions with each other for connecting the oxide superconducting wires (1, 2) with each other; and

working a junction (L) formed by superposing said end portions with each other to reduce the quantity of strain on an end of said junction to be close to the quantity of strain on non-superposed portions of said oxide superconducting wires (1, 2) when said two oxide superconducting wires (1, 2) connected with each other are bent.

2. The method of manufacturing an oxide superconducting wire according to claim 1, wherein said step of bonding said oxide superconducting wires (1, 2) includes an operation of superposing the end portions of said two oxide superconducting wires (1, 2) with each other with interposition of a brazing filler metal (3) thereby bonding the end portions.

3. The method of manufacturing an oxide superconducting wire according to claim 2, wherein said oxide superconducting wires (1, 2) are tape-like wires having rectangular cross sections.

4. The method of manufacturing an oxide superconducting wire according to claim 3, wherein said step of bonding said oxide superconducting wires (1, 2) includes an operation of superposing wide surfaces of two said tape-like wires with each other thereby bonding the wide surfaces.

5. The method of manufacturing an oxide superconducting wire according to claim 4, wherein said step of working said junction (L) includes an operation of working (11a, 11b, 21a, 21b) said end portions so that the widths (W) of said tape-like wires are reduced toward the ends.

6. The method of manufacturing an oxide superconducting wire according to claim 5, wherein said step of working said junction (L) includes an operation of cutting said end portions to have V shapes (11a, 21a) in plane.

7. The method of manufacturing an oxide superconducting wire according to claim 5, wherein said step of working said junction (L) includes an operation of cutting said end portions so that said end portions have end surfaces (11b, 21b) inclined in the width direction across the widths of said tape-like wires.

8. The method of manufacturing an oxide superconducting wire according to claim 4, wherein said step of working said junction (L) includes an operation of working (12, 22) said end portions so that the thicknesses (T) of said tape-like wires are reduced toward the ends.

9. The method of manufacturing an oxide superconducting wire according to claim 2, wherein said oxide superconducting wires (1, 2) are round wires.

10. The method of manufacturing an oxide superconducting wire according to claim 2, wherein said step of working said junction (L) includes an operation of at least partially coating said junction (L) with a metal or an organic substance (41, 42, 43, 44) thereby reducing said quantity of strain.

11. The method of manufacturing an oxide superconducting wire according to claim 10, wherein said step of working said junction (L) includes an operation of at least partially inserting said junction (L) into a material (43, 44) having an annular shape.

12. The method of manufacturing an oxide superconducting wire according to claim 1, wherein said oxide superconducting wires (1, 2) contain a bismuth oxide superconductor.

13. The method of manufacturing an oxide superconducting wire according to claim 12, wherein said bismuth oxide superconductor is a filament coated with a material containing silver.

14. An oxide superconducting wire comprising:

a first oxide superconducting wire (1) having an end portion;

a second oxide superconducting wire (2) having an end portion; and

a junction (L) formed by superposing the end portions of said first and second oxide superconducting wires (1, 2) with each other, wherein the quantity of strain on an end of said junction (L) is reduced to be

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close to the ~~quantity of strain on non-superposed portions of said first and~~ second oxide superconducting wires (1, 2).

15. The oxide superconducting wire ~~according to claim 14, wherein~~ said junction (L) ~~includes a brazing filler~~ metal (3) interposed between superposed said end portions of said first and second oxide superconducting wires (1, 2).

16. The oxide superconducting wire according to claim 15, wherein said oxide superconducting wires (1, 2) are tape-like wires having rectangular cross-sections.

17. The oxide superconducting wire according to claim 16, wherein said junction (L) includes a junction formed by superposing wide surfaces of two said tape-like wires.

18. The oxide superconducting wire according to claim 17, wherein said junction (L) includes an end portion (11a, 11b, 21a, 21b) so worked that the widths (W) of said tape-like wires are reduced toward the end.

19. The oxide superconducting wire according to claim 18, wherein said junction (L) includes an end portion having a V shape (11a, 21a) in plane.

20. The oxide superconducting wire according to claim 18, wherein said junction (L) includes an end portion (11b, 21b) having an end surface inclined in the width direction across the widths of said tape-like wires.

21. The oxide superconducting wire according to claim 17, wherein said junction (L) includes an end portion (12, 22) so worked that the thicknesses (T) of said tape-like wires are reduced toward the end.

22. The oxide superconducting wire according to claim 15, wherein said oxide superconducting wires (1, 2) are round wires.

23. The oxide superconducting wire according to claim 15, wherein said junction (L) is at least partially coated with a metal or an organic substance (41, 42, 43, 44).

24. The oxide superconducting wire according to claim 23, wherein said junction (L) is at least partially inserted into a material (43, 44) having an annular shape.

25. The oxide superconducting wire according to claim 14, wherein

said oxide superconducting wires (1, 2) contain a bismuth oxide superconductor.

26. The oxide superconducting wire according to claim 25, wherein said bismuth oxide superconductor is a filament coated with a material containing silver.

27. A superconducting coil comprising:

a first oxide superconducting wire (1) having an end portion;

a second oxide superconducting wire (2) having an end portion; and

a junction (L) formed by superposing the end portions of said first and second oxide superconducting wires (1, 2) with each other, wherein

the quantity of strain on an end of said junction (L) is reduced to be close to the quantity of strain on non-superposed portions of said first and second oxide superconducting wires (1, 2).

28. A superconducting apparatus comprising:

a first oxide superconducting wire (1) having an end portion;

a second oxide superconducting wire (2) having an end portion; and

a junction (L) formed by superposing the end portions of said first and second oxide superconducting wires (1, 2) with each other, wherein

the quantity of strain on an end of said junction (L) is reduced to be close to the quantity of strain on non-superposed portions of said first and second oxide superconducting wires (1, 2).